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Modern medicine owes to Muslims

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The contribution of Muslims in the field of medicine was tremendous during the middle ages and the nature of the contributions, remarkable.

Al-Raazi (AD 865-AD 925) was undoubtedly the greatest physician of the Islamic world and one of the greatest physicians of all time. His works were widely translated into Latin under the name, Rhazes, spreading his influence well beyond the boundaries of the Islamic world. Al-Raazi wrote Kitab Al-Mansuri, a 10-volume treatise dealing with Greek medicine, translated into Latin as Liber ad Almansorem. His outstanding work Al-Judari-wal-Hasbah, a book dealing with smallpox and measles is one of the most authentic books on the subject, even to the present day. It was translated into Latin and other European languages and was published more than forty times between AD 1498 and AD 1866. His comprehensive and celebrated work, Al-Hawi runs into 20 volumes. On the order of Charles I, King of Sicily, the Sicilian Jewish physician, Faraj Ibn Salim, translated it into Latin with the title Continens. Al-Raazi also contributed to gynecology, obstetrics, ophthalmology, and nephrology. He was also an eminent surgeon and is the inventor of Seton in surgery. The Seton procedure involves running a surgical-grade cord through the fistula tract so that the cord creates a loop that joins up outside the fistula. The cord provides a path that allows the fistula to drain continuously while it is healing, rather than allowing the exterior of the wound to close over. Keeping the fistula tract open can help keep from trapping pus or other infectious material in the wound.

Al-Raazi developed sutures, which he extracted from animals in order to join tissues, and was the first to use sutures in the treatment of wounds. He drew on his chemical experience to develop compounds such as mercury salts, lead and copper that were used in treatment for the first time; much of his practical success was due to his usage of developing trials for these compounds using monkeys. He was also the first to use white lead in ointments and mercury ointment as a laxative.

His breadth of knowledge and curiosity put him at the forefront of medicine with other societies scrambling for his translations to catch up.

Ali Ibn Al-Abbas-al-Majusi (d. 994) known in the west as Haly Abbas, was the author of a celebrated work Kitab-al-Maliki known as Liber Regius in Latin, an excellent and compact encyclopedia dealing with both the theory and practice of medical science. It remained a standard book until it was superseded by the Canon, the masterpiece of the great Avicenna. Al-Majusi was the first physician to write about the capillary system and to accurately describe the way in which a child is born.

Abu Ali Al-Husain-al-Sina, (AD 980 – AD 1037) known as Avicenna in the west, was one of the greatest intellectuals of the Islamic world and is ranked second only to Aristotle. His monumental work Al-Qanun-fil-Tibb (laws of medicine) known as Canons of Medicine, is the masterful culmination of the Arab systematization of knowledge. It is a medical encyclopedia covering 760 drugs and diseases affecting all parts of the body, including diseases that spread through water. The book is particularly concerned with pathology and pharmacopoeia and was massive in its scope. It was translated into Latin in the 12th century by Gerard of Cremona, making it available to a larger, European audience. The popularity of this book may be gauged by the fact that during the 15th and 16th centuries, it was published hundreds of times in various European languages. Ibn Sina's work, Al-Qanun (Canons of Medicine) formed half of the medical curriculum of the European universities in the latter part of the 15th century and continued to be used as a textbook in the universities of the west up to about 1650 (Hitti, 2000).

Abu-Al-Jarrah-Al-Zahrawi known in Latin as Abul Casis (d. 1013) was a great surgeon, who wrote Al-Tasrif. The book is fully illustrated with sketches of surgical instruments and it profoundly contributed to the development of surgery both in the East and the West. Al-Zahrawi was the first surgeon to perform surgical operations on blood vessels, such as suturing arteries, after they had been cut, and joining them while they were bleeding. For the first time, he used silk fibers in closing wounds and gold ligaments in treating teeth. He developed plastic suturing and many other surgical instruments that were not previously known. He drew pictures of these instruments, and gave details of their size and the material used in manufacturing them.

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He developed the surgical operations of lithotomy, the removal of gallstones, tonsillectomy (fissuring the throat to facilitate breathing) and delivering a baby into a basin in case the embryo was in an abnormal position. He recommended the assistance of female nurses when performing surgical operations on women, because females are kinder and patients would feel more comfortable with them. Al-Qanun of Avicenna and the Surgery of Zahrawi's At-Tasreef remained textbooks of medical science throughout Europe until the 17th century.

Abul Qasim Zahrawi's book on surgery At-Tasreef was translated into Latin from Arabic by Gerard of Cremona (Gerard of Cremona (Latin: Gerardus Cremonensis) (AD 1114 – AD 1187) was an Italian translator of scientific books from Arabic into Latin) in the 12th century and its various editions were published in Venice (AD 1497), in Basel (AD 1541) and in Oxford (AD 1778). It held its place for centuries as the textbook of surgery in European medical schools.

Ali Ibn Isa of Baghdad known in Latin as Jesu Occulist has written an excellent treatise on ophthalmology (the branch of medicine dealing with eye diseases). It was translated into Latin and was considered the most authoritative work on eye diseases in Europe until the middle of the 18th century. Hunayn Ibn Ishaaq, wrote Ten Essays on Eyes. Hunayn also wrote another book, which contained all the required information for the proper treatment of eye diseases.

Abu Ali al-Hasan (AD 965 -AD 1020) known as Alhazen in the west, is recognized as the greatest authority on optics the world has ever produced. He has corrected the theories of Euclid and Ptolemy on the subject. His Opticae Thesaurus influenced such great writers on optics as Roger Bacon, Leonard da Vinci, John Kepler and many other medieval western writers. Alhazen opined that it is not the ray that leaves the eye and meets the object that gives rise to vision, rather the form of the perceived object passes into the eye and is transmitted by its transparent body.

Ibn Rushd known as Averroes (d. 1198) wrote 16 medical works, one of which Kulliyat-fil-Tib deals with general rules of medicine and was translated into Latin as Collegiate. This book was also printed several times in Europe because of its insights, quality and usefulness.

Ibn Katina, the Moorish physician (d. 1369), is the author of an excellent book on the plague and was superior to all earlier works on the subject. This book was edited and translated in Europe in the

15th century AD and revealed the contagious character of the plague and its remedies, which had not been known to Greek physicians.

Ibn An-Nafees (d. 1288) was the manager of the Mansoori Hospital in Cairo, which was, at that time, the best hospital in the world. Ibn An-Nafees discovered the minor circulatory system. The work of An-Nafis regarding the right sided (pulmonary) circulation pre-dates the work of William Harvey's De motu cordis (AD 1628). Both theories attempt to explain circulation. Together, they represent the earliest and best of Eastern and Western explorations of cardiac physiology. One of his most famous medical writings was his book The Comprehensive, which consisted of tens of volumes.

Ibn Masawayh (d. 857) was the first in the history of medicine who wrote a complete treatise on ophthalmology, called Ten Essays on the Eye. He was director of a hospital in Baghdad. He also composed many other medical treatises on a number of topics, including, fevers, headache, melancholia, dietetics, melancholy, dietetics, and medical aphorisms. He also translated various Greek medical works into Syriac. Many anatomical and medical writings are credited to him, notably the 'Disorder of the Eye' (Daghal al-'ain), which is the earliest systematic treatise on ophthalmology, the Latin translation of which was very popular in the Middle Ages.

In the light of the above discussion, it can be safely said that the Muslims world not only transmitted and translated an already existing body of knowledge on medicine, especially from Greek doctors, but also made significant contributions in the fields of medicine and surgery and these became the very basis of modern advancements in these fields.

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